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Remarks

The specification has been amended herein to cure minor typographical errors. No new matter has been added.

Claims 1-22 are currently pending in the subject application and are presently under consideration. A clean version of all pending claims is found at pages 3-6.

Favorable consideration of the subject patent application is respectfully requested in view of the comments herein.

I. Rejection of Claims 1-8 and 10-22 Under 35 U.S.C. §102(e)

Claims 1-8 and 10-22 stand rejected under 35 U.S.C. §102(e) as being anticipated by Chui *et al.* Two individual U.S. patents by Chui *et al.* are identified in the Notice of References Cited accompanying the subject Office Action. Although the Office Action does not identify the specific Chui *et al.* patent employed as in connection with the rejections, the Examiner's comments appear to mirror Chui *et al.* (U.S. 6,343,155). As such, the comments herein are directed toward this patent.

It is respectfully requested that this rejection be withdrawn for at least the following reasons. Chui *et al.* does not teach or suggest *each and every element* of applicants' claimed invention.

For a prior art reference to anticipate, 35 U.S.C. §102 requires that "*each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999) (*quoting Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)) (emphasis added).

The present invention relates generally to computer systems, and more particularly to a system and method for compressing image data *via* wavelet transforms applied to an image followed by an encoding scan sequence of resultant groupings of wavelet coefficients.

In particular, as recited in independent claim 1 (and similarly in independent claims 10, 16 and 22), the subject invention provides for a data compression system that

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includes a scanning component which scans at least a portion *of a transformed image, wherein the scan is performed substantially in a horizontal direction on a first section of the portion and in a vertical direction on a second section of the portion* to enable improved data compression of the transformed image. Chui *et al.* does not teach or suggest such feature of applicants' claimed invention.

Image compression in accordance with the claimed invention is improved over conventional systems *by applying a contiguous scanning pattern to defined regions of a transformed image and alternating vertical and horizontal scan directions within the defined regions during encoding of the transformed image.* The contiguous scanning pattern of the present invention enables fewer jumps (a jump occurs when two coefficients that are not adjacent are scanned successively) than plain linear scanning within a region – thus, compression is improved. Furthermore, the contiguous scanning patterns are alternated between a vertical contiguous pattern and a horizontal contiguous pattern depending upon a filtering pattern applied to the image. In this manner, wavelet coefficients are more likely to be correlated and thus, image compression is further improved over conventional systems. (See pg. 3, ln. 14-24).

As disclosed and claimed in the present application, an alternating horizontal/vertical scanning pattern is applied to *a transformed image*. In other words, the scanning technique as set forth in independent claim 1 (and similarly in independent claims 10, 16 and 22) is employed following the generation of a transformed image *via* wavelet transforms.

The Office Action incorrectly contends that Chui anticipates the claimed invention, and states that figures 2, 8C and 8D of this reference (and col. 9, lns. 35-40) disclose applicants' invention as recited in the subject claims. However, Fig. 2 (and the relevant discussion thereto) of Chui *et al.* is silent with regard to scanning individual portions of the transformed image in an alternating horizontal and vertical direction. Rather, Chui *et al.* discloses that *data decomposition transform operations utilize horizontal filtering followed by vertical filtering.* (See Chui *et al.*, col. 7, ln. 59-62).

Similarly, Figs. 8C and 8D schematically represent *the wavelet-like transformations* and intermediate coefficient storage *and usage for the first two horizontal and vertical transformation layers of that process.* (See Chui *et al.*, col. 9,

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lns. 56-59). In accordance with Chui *et al.*, once an image is captured, all tiles in the image are processed, in raster scan order, *by applying a wavelet-like decomposition transform to them in both the horizontal and vertical directions*, then quantizing the resulting transform coefficients, and finally by encoding the quantized transform coefficients using a sparse data compression and encoding procedure. (See Chui *et al.*, col. 9, ln. 28-40).

Clearly, Chui *et al.* fails to teach or suggest the aforementioned features of applicants' invention as recited in independent claims 1, 10, 16 and 22. Rather, Chui *et al.* merely discloses a method to apply wavelet-like decomposition transforms in both a horizontal and vertical direction. Chui *et al.* is silent with regard to any technique for horizontal and vertical scanning of a transformed image as disclosed and claimed in the present invention.

For at least the foregoing reasons, it is readily apparent that Chui *et al.* does not teach or suggest a scanning component which *scans at least a portion of a transformed image, wherein the scan is performed substantially in a horizontal direction on a first section of the portion and in a vertical direction on a second section of the portion* to enable improved data compression of the transformed image as recited in the subject independent claims (and claims 2-8, 11-15, 17-21 that respectively depend there from). This rejection should be withdrawn.

II. Rejection of Claim 9 Under 35 U.S.C. §103(a)

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Chui *et al.* in view of Well Known Prior Art. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Chui *et al.* considered individually or in combination with Well Known Prior Art does not teach or suggest all limitations as recited in the subject claim.

Claim 9 depends from independent claim 1. The purported Well Known Prior Art would not cure the aforementioned deficiencies of Chui *et al.* regarding independent claim 1. Moreover, the Office Action contends that "Well Known Prior Art" would enable one of ordinary skill in the art to substitute the Golomb-Rice method in place of the encoding method offered by Chui *et al.* to teach or suggest the aspects of claim 9.

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Applicant's representative respectfully disagrees with such assertion, and request a showing of evidence in support of such official notice pursuant to MPEP §2144.03, or in the alternative withdraw this rejection.

CONCLUSION

The present application is believed to be in condition for allowance, in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

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